Claims

1. An interception method for performing a lawful interception in a packet network, comprising the steps of:
a) providing a first network element **(LIN)** having an interception function for intercepting data packets;
b) controlling said interception function by an interception control means **(26)** implemented in a second network element **(LIG)**; and
c) transmitting an intercepted data packet from said first network element **(LIN)** via said packet network to an interception gateway element **(LIG)** providing an interface to at least one intercepting authority **(LEA)**.

2. A method according to claim 1, wherein said interception gateway element **(LIG)** is integrated in said second network element.

3. A method according to claim 1 or 2, wherein a header of a data packet is read by said network element **(LIN)** and data packets to be intercepted are duplicated.

4. A method according to any one of the preceding claims, wherein said intercepted data packet is transmitted to said interception gateway element **(LIG)** using a secure tunnel.

5. A method according to claim 4, wherein said secure tunnel is implemented by an encryption processing.

6. A method according to any one of the preceding claims, wherein said intercepted data packet is transmitted via interworking units **(IWU)** and encrypted between said interworking units, when said first network element **(LIN)**

and said interception gateway element **(LIG)** are arranged in separate network segments.

7. A method according to any one of the preceding claims, wherein said first network element is provided in each network segment of said packet network.

8. A method according to any one of the preceding claims, wherein received intercepted data packets are collected in said interception gateway element **(LIG)** and supplied to an interface of said at least one intercepting authority **(LEA)**.

9. A method according to claim 8, wherein said interface comprises a first interface for administrative tasks, a second interface for network signaling, and a third interface for intercepted user data.

10. A method according to any one of the preceding claims, wherein said intercepting function comprises a packet sniffing and filtering function.

11. A method according to claim 10, wherein said intercepting function is implemented in the Gn interface.

12. A method according to any one of the preceding claims, wherein said interception function comprises reading data packets, analyzing the header of the data packets as to whether the data packet should be intercepted or not, and transmitting the data packet to said interception gateway element **(LIG)**, and a management function for interception and transmission criteria.

13. A method according to any one of the preceding claims, wherein an alarm is transmitted to said interception

gateway element **(LIG)** and all interception information of a respective network element **(LIN)** is deleted, when a breakage of a casing of the respective network element has been detected.

14. A method according to any one of the preceding claims, wherein fake packets are transmitted from said network element **(LIN)** to said interception gateway element **(LIG)**.

15. A method according to claim 14, wherein said fake packets are transmitted at random or triggered at any passing packet, such that the total load of intercepted and fake packets transmitted to said interception gateway element **(LIG)** is constant.

16. A method according to any one of the preceding claims, wherein said intercepted data packet is padded to a maximum length.

17. A method according to any one of the preceding claims, wherein a time information is added to said intercepted data packet.

18. An interception system for performing a lawful interception in a packet network, comprising:

a) a first network element **(LIN)** having an interception function for intercepting data packets and comprising a transmitting means **(14)** for transmitting an intercepted data packet to said packet network;

b) an interception control means **(26)** implemented in a second network element **(LIG)** and controlling the interception function; and

c) an interception gateway element **(LIG)** having a receiving means **(21)** for receiving said intercepted data

packet and an interface means **(27)** for providing an interface to at least one intercepting authority **(LEA)**.

19. A system according to claim 18, wherein said second network element corresponds to said interception gateway element **(LIG)**.

20. A system according to claim 18 or 19, wherein said first network element **(LIN)** further comprises an encrypting means **(12)** for encrypting said intercepted data packet.

21. A system according to any one of claims 18 to 20, wherein said first network element **(LIN)** further comprises a means **(13)** for generating fake packets to be transmitted with said intercepted data packets.

22. A system according to anyone of claims 18 to 21, wherein said first network element **(LIN)** comprises a reading means **(11)** for reading a header of a received data packet and for duplicating a data packet to be intercepted.

23. A system according to claim 22, wherein said reading means **(11)** is arranged to pad said copied data packet to a maximum length.

24. A system according to anyone of claims 18 to 23, wherein said first network element **(LIN)** is a gateway element of said packet network.

25. A system according to any one of claims 18 to 23, wherein said first network element **(LIN)** is a BG, an SGSN or a GGSN.

26. A system according to claim 24 or 25, wherein an interception information defining a data packet to be

intercepted is included in a context information supplied to said first network element **(LIN)** and used for routing data packets.

27. A system according to claim 26, wherein said interception control means **(26)** comprises a storing means for storing an interception list, and wherein said interception control means **(26)** is arranged to add said interception information to said context information supplied to said first network element.

28. A system according to any one of claims 18 to 27, wherein said first network element **(LIN)** is arranged in each segment of said packet network.

29. A system according to anyone of claims 18 to 28, wherein said first network element **(LIN)** comprises a control means **(15)** for controlling interception and encryption processing in accordance with an interception setting instruction received from said interception control means **(26).**

30. A system according to anyone of claims 18 to 29, wherein said interception gateway element **(LIG)** comprises a memory means **(25)** for storing received intercepted data packets before supplying them to said interface means **(27).**

31. A system according to claim 30, wherein said interception gateway element **(LIG)** comprises a decryption means **(22)** for removing an encryption of the received intercepted data packets, an extraction means **(23)** for extracting intercepted data packets from fake data packets, and a means **(24)** for adding a time information to said

received intercepted data packets before storing them in said memory means **(25)**.

32. A system according to any one of claims 18 to 31, wherein said first network element **(LIN)** comprises a detecting means for detecting a malfunction and/or breakage thereof, and signaling means for signaling an alarm to said interception gateway element **(LIG)** in response to an output of said detecting means.

33. A network element for a packet network, comprising:
a) an interception means **(11, 15)** for intercepting a data packet received from said packet network, and
b) a transmitting means **(14)** for transmitting said intercepted data packet via said packet network to an interception gateway element,
c) wherein said interception means is controlled by an interception control means **(26)** arranged in another network element **(LIG)**.

34. An interception gateway element for an interception system of a packet network, comprising:
a) a receiving means **(21)** for receiving an intercepted data packet via said packet network from a network element **(LIN)** having an interception function; and
b) an interface means **(27)** for providing an interface to an intercepting authority **(LEA)**.

35. An interception gateway element according to claim 34, further comprising an interception control means **(26)** for controlling said interception function of said network element **(LIN)**.